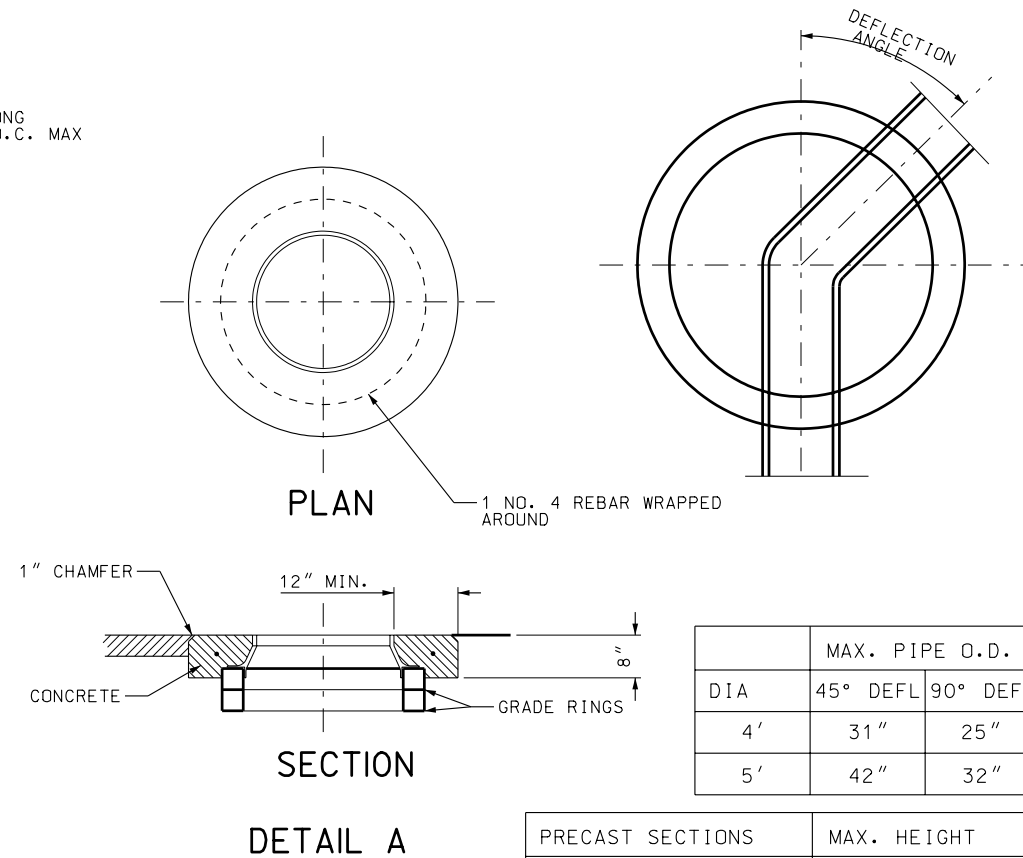
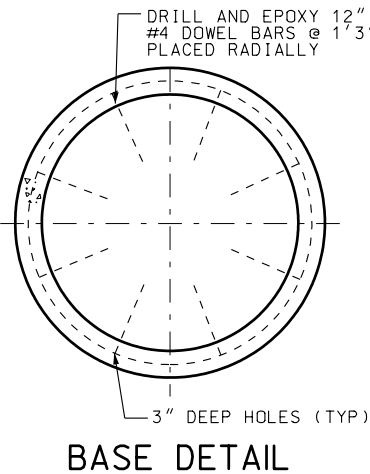
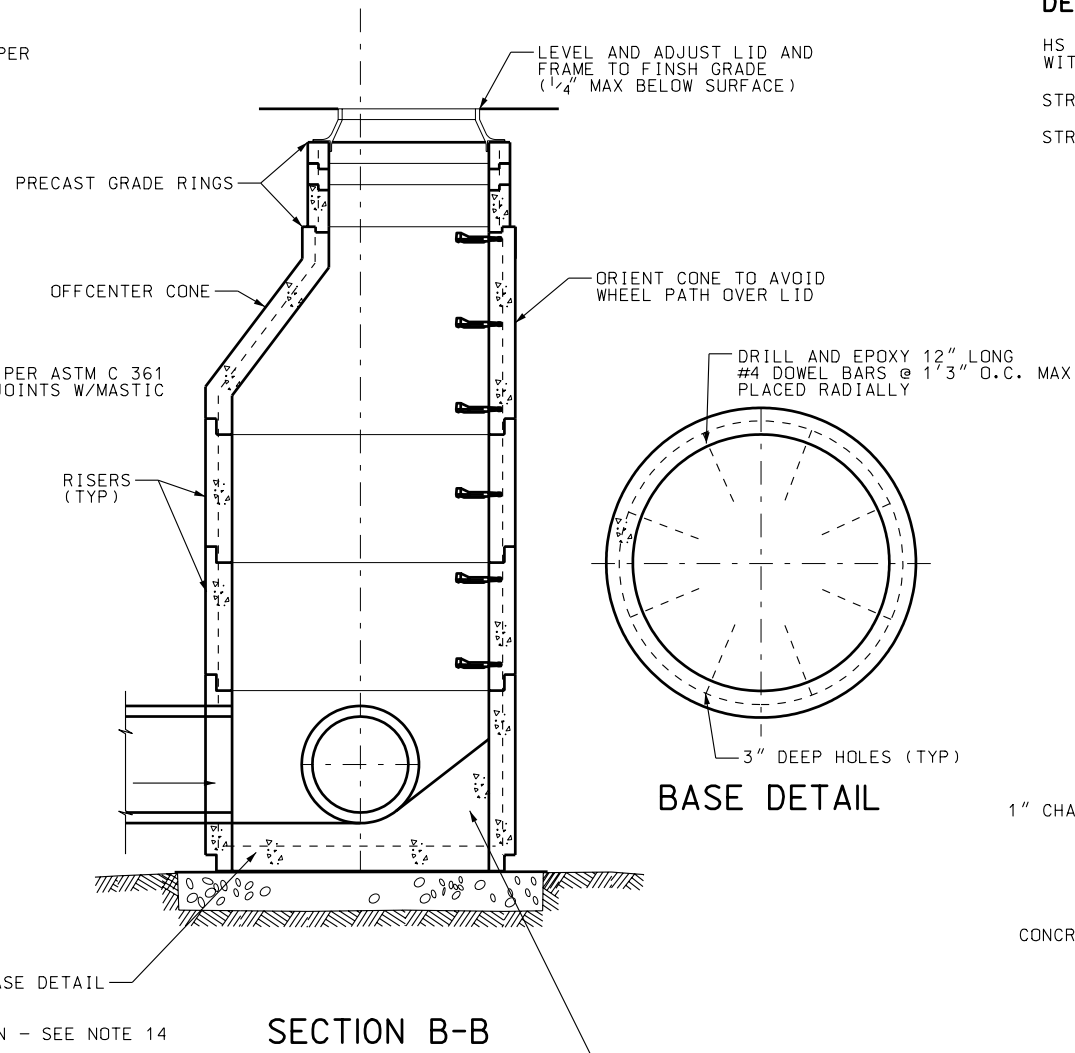
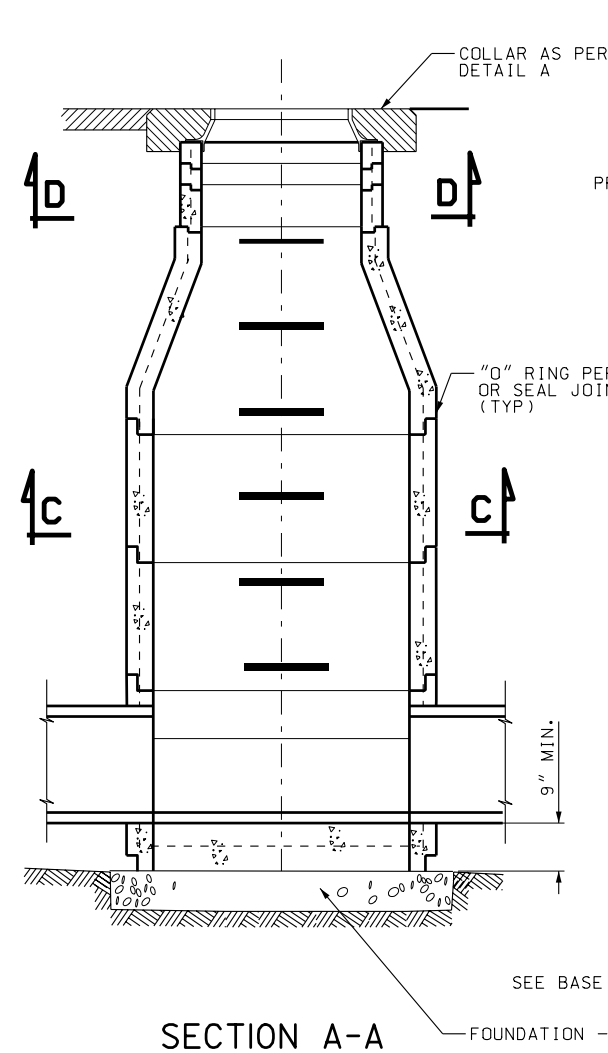
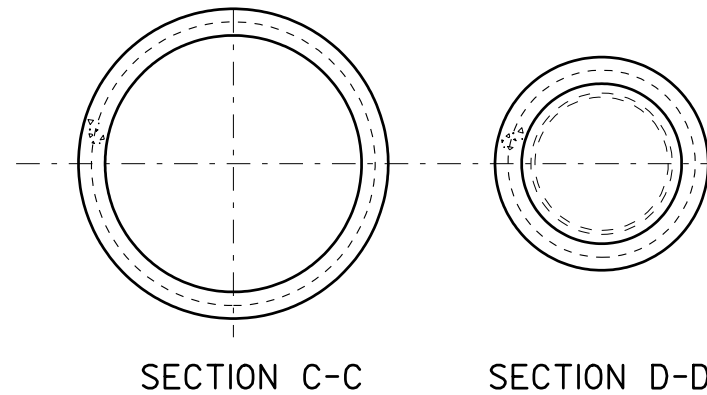
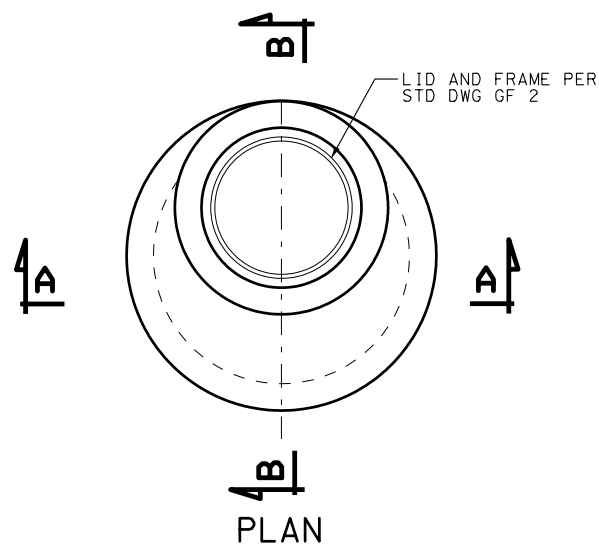


15-DEC-2004 D:\Filer\N\Std\Standard Drawings\Imperial\2005\Approved\Catch Basins and Cleanouts (CB)\CB1.dgn



| DIA | MAX. PIPE O.D. | |
|-----|----------------|----------|
| | 45° DEFL | 90° DEFL |
| 4' | 31" | 25" |
| 5' | 42" | 32" |

| PRECAST SECTIONS | MAX. HEIGHT |
|----------------------|-------------|
| GRADE RINGS | 8" |
| COMBINED GRADE RINGS | 18" |
| CONES | 36" |
| RISERS | 48" |

NOTES:

1. USE 3", 4", 6", OR 8" HIGH GRADE RINGS.
2. USE SECTIONS 1'-0", 1'-6", 2'-0", 3'-0" OR 4'-0" HIGH.
3. IF THE REQUIRED RAISE IS MORE THAN 1'-0", REMOVE THE CONE AND ADD RISER RINGS TO THE RISER SECTION. COMPACT BACKFILL TO A MINIMUM OF 90% DENSITY AND REPLACE THE ROADWAY SURFACING IN KIND.
4. PREVENT DEBRIS FROM FALLING INTO THE MANHOLE DURING CONSTRUCTION. CLEAN AND REMOVE ANY DEBRIS IN THE MANHOLE AND CONNECTING PIPES.
5. REPAIR ANY DAMAGE OR REPLACE DAMAGED MANHOLES TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.
6. USE COATED DEFORMED BILLET REINFORCING STEEL BARS CONFORMING TO AASHTO M 284 OR M 111 AND M 31 GRADE 60 RESPECTIVELY.
7. FOR LID AND FRAME SEE STD DWG GF 2.
8. USE CLASS AA (AE) CONCRETE.
9. USE TYPE II CEMENT (LOW ALKALI).
10. PROVIDE 2" CONCRETE COVER TO REINFORCING STEEL.
11. PROVIDE HYDRAULIC CEMENT MORTAR ACCORDING TO ASTM C 185 AND PRECAST MANHOLE SECTIONS PER ASTM C 478.
12. PLACE STEPS BEGINNING 2' BELOW FINISHED GRADE AS PER STD DWG GF 6.
13. SUBMIT DESIGN FOR MANHOLES GREATER THAN 5' IN DIAMETER OR DEEPER THAN 18' TO ENGINEER FOR APPROVAL.
14. DO NOT OVEREXCAVATE. PLACE 6" MIN. UTBC BEDDING ACCORDING TO SECTION 02721 ON FIRM SUBGRADE. DO NOT USE CRUSHED ROCK IN ACTIVE WATERTABLE WITHOUT APPROVAL OF THE ENGINEER.

DESIGN DATA

HS 20 OR INTERSTATE ALTERNATE LOADING IN ACCORDANCE WITH AASHTO 17th EDITION SPECIFICATIONS.

STRUCTURAL STEEL: $F_y = 36,000 \text{ psi}$

STRUCTURAL CONCRETE: $f'_c = 4,000 \text{ psi}$
 $f_y = 60,000 \text{ psi}$
 $n = 8$

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SAFETY

RECOMMENDED FOR APPROVAL
CHAIRMAN STANDARDS COMMITTEE
APPROVED
DEPUTY DIRECTOR

STANDARD
MANHOLE

STD DWG
CB 11